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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,825	08/06/2003	Akira Nagashima	03500 016040.1	7347

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NEW YORK, NY 10112

EXAMINER
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SHAH, MANISH S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 03/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/634,825	Applicant(s) NAGASHIMA ET AL.	
	Examiner Manish S. Shah	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/021,091.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/06/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 & 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,676,254 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is disclosed in the US Patent and is covered by the US Patent, since the US patent and the application are claiming common subject matter, as follows as shown in Table: 1 below.

**TABLE: 1**

# US 6676254 B2 CLAIMS	# 10/634,825 CLAIMS
<p>1. A recording method comprising a step of providing an ink from a recording head to a recording medium through a gap provided between the recording head and the recording medium, the ink being supplied to the recording head from an ink tank comprising an ink contact member and the ink contacting the ink contact member, wherein the ink comprises</p> <ul style="list-style-type: none"> <li>(i) a fluorescent coloring material;</li> <li>(ii) a nonionic surfactant;</li> <li>(iii) a compound which is not compatible with</li> </ul> <p>(ii) and; which has a solubility parameter of not less than 15; and</p> <ul style="list-style-type: none"> <li>(iv) a liquid medium for dissolving or dispersing</li> </ul> <p>(i), (ii) and (iii), and</p> <p>wherein the ink contact member comprises at least one compound selected from the group consisting of polyacetate and polyolefin.</p>	<p>1. A recording method comprising a step of providing an ink from a recording head to a recording medium through a gap provided between the recording head and the recording medium, the ink being supplied to the recording head from an ink tank comprising an ink contact member and the ink contacting the ink contact member, wherein the ink comprises</p> <ul style="list-style-type: none"> <li>(i) a fluorescent coloring material;</li> <li>(ii) a nonionic surfactant;</li> <li>(iii) a compound which is not compatible with (ii);</li> </ul> <p>and</p> <ul style="list-style-type: none"> <li>(iv) a liquid medium for dissolving or dispersing</li> </ul> <p>(i), (ii) and (iii), and</p> <p>wherein the ink contact member comprises at least one compound selected from the group consisting of polyacetate and polyolefin.</p> <p>38. An ink cartridge comprising an aqueous ink and ink contact member, wherein the ink comprises</p> <ul style="list-style-type: none"> <li>(i) a fluorescent coloring material;</li> <li>(ii) a nonionic surfactant;</li> <li>(iii) a compound which is not compatible with (ii);</li> </ul> <p>and</p> <ul style="list-style-type: none"> <li>(iv) a liquid medium for dissolving or dispersing</li> </ul> <p>(i), (ii) and (iii), and</p> <p>wherein the ink contact member comprises at least one compound selected from the group consisting of polyacetate and polyolefin.</p>

With respect to claim 1, the pending application claiming the recording method steps, which is almost same as of US patent.

However, the pending application claimed a compound, which is not compatible with (ii) , which is broader limitation than the US Patent, so this limitation still can read by the US Patent claim.

It was obvious to one of ordinary skill in the art at the time of invention was made to use the ink composition of the US Patent in to the recording method of pending application to get the printed image.

With respect to claim 38, the pending application claiming the ink cartridge including the ink composition, which is almost same ink as US Patent.

However, the US Patent did not claim an ink cartridge it is obvious to one of ordinary skill in the art that to store the ink, recording apparatus need in cartridge of pending application.

It was obvious to one of ordinary skill in the art at the time of invention was made to use the ink composition taught in the US Patent in to the ink cartridge of pending application to store the ink, and which is very easy for handling.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-17, 20-28 & 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka et al. (# US 5865883) in view of Iwata et al. (# US 5101217) and Auslander et al. (# US 5681381).

Teraoka et al. discloses:

- The recording method comprising the steps of providing an ink from a recording head to recording medium; the ink being supplied to the recording head (element: 901, figure: 9) from an ink tank (element: 905, 911, figure: 9), wherein the ink tank comprising an ink contact member and which comprising one compound selected from the group consisting of polyacetate and polyolefin (column: 6, line: 50-65; figure: 5).
- The ink comprises a fluorescent coloring material, which is water-soluble fluorescent dye (column: 3, line: 55-60; column: 7, line: 20-35); a water-soluble or hydrophilic nonionic surfactant with acetylene group (column: 5, line: 40-65); and liquid medium for dissolving the dye (column: 5, line: 10-25), wherein the concentration of the fluorescent coloring material in the ink is in the range from 0.2 to 8 % by weight of the total weight of the ink (column: 4, line: 15-20).
- The concentration of the nonionic surfactant is contained in the range from 0.1 to 5% by mass based on total weight of the ink (column: 6, line: 5-10).
- The recording unit comprises the ink cartridge, which holds the ink and has an ejecting energy-generating device (figure: 9, column: 6, line: 15-45).
- They also disclose that the ejecting the ink droplets is performed by the thermal energy (column: 9, line: 30-36).
- They also disclose that the ink holding members are formed of fibrous aggregates, which is arranged along the direction of discharging the ink (figure: 9, column: 6, line: 63-65).

- They also disclose that the ink also contains an alkali metal salt (column: 4, line: 65-67) and an urea (see examples).

Teraoka et al. differs from the claim of the present invention in that (1) the ink includes a compound which is not compatible with a nonionic surfactant, which is water soluble or hydrophilic liquid at room temperature, wherein the compound selected from the group consisting of sugar alcohol, sugar alcohol complex and an ethyleneoxide and/or propyleneoxidized adduct thereof. (2) The nonionic surfactant has an HLB not more than 13.

Iwata et al. teaches that to increases the viscosity of the ink, reducing the feathering of the dots and improving the quality of the print, ink includes compound, wherein the compound is sugar alcohol added with ethylene oxide and propylene oxide (column: 5, line: 1-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compound in the ink composition of Teraoka et al. by the aforementioned teaching of Iwata et al. in order to increase the viscosity of the ink and because of that it reduces the feathering of the dot and improving the quality of the printed image (column: 4, line: 64-68).

Auslaner et al. teaches that to increase the solubility of colorant and to achieved desired shelf life of ink adding non-ionic surfactant in the ink with HLB between 8 and 13 (column: 6, line: 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the nonionic surfactant in the ink composition of Teraoka et al. by

the aforementioned teaching of Auslaner et al. in order to increase the solubility of colorant and increase the shelf life of ink (column: 5, line: 60-67).

2. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka et al. (# 5865883). in view of Iwata et al. and Auslander et al. as applied to claims 1-17, 20-28 & 33-35 above, and further in view of in view of Takemoto et al. (# US 6084619).

Teraoka et al. discloses all the limitation of the ink jet recording method except that the nonionic surfactant has a structure represented by formula 1 as shown in attachment.

Takemoto et al. teaches that to get the good quality of image ink has a nonionic surfactant, which has a structural formula 2 as shown in the attachment (column: 7, line: 8-32).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the nonionic surfactant in the ink composition of Teraoka et al. as modified by the aforementioned teaching of Takemoto et al. because it has a good penetration property, which gives good quality of image with high density.

3. Claims 29-32 & 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka et al. (# 5865883) in view of Iwata et al. and Auslander et al. as applied to claims 1-17, 20-28 & 33-35 above, and further in view of Likavec et al. (# 6169185) and Sakaki et al. (# 5570120).

Teraoka et al. discloses all the limitation of the ink jet recording method except that: (1) ink further contains a non-fluorescent coloring material, which is azo dye, which



is water soluble or hydrophilic. (2) The concentration of the non-fluorescent coloring material in the ink is not less than the fluorescent coloring material. (3) The pH of ink is not more than 8. (4) The surface tension of ink is not more than 40 dyne/cm.

Likavec et al. teaches that the ink further contains a non-fluorescent water-soluble coloring material, which is azo dye (column: 4, line: 30-45). They also teach that the concentration of the non-fluorescent coloring material in the ink is not less than the fluorescent coloring material (see examples). They also teach that the pH of the ink is from 6.7 to 9 (column: 2, line: 48-52).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Teraoka et al. as modified by the aforementioned teaching of Likavec et al. because it has a good storage stability, which increases the life of the ink.

Sakaki et al. teaches that to get the image with high density, high resolution, and high light transmissivity, ink having a surface tension ranging from 25 to 35 dyne/cm (see Abstract; column: 2, line: 35-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Teraoka et al. as modified by the aforementioned teaching of Sakaki et al. because it gives image with high density, high resolution, high light transmissivity.

4. Claims 38-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka et al. (# US 5865883) in view of Iwata et al. (# US 5101217).

Teraoka et al. discloses an ink cartridge providing an ink from a recording head to recording medium; the ink being supplied to the recording head (element: 901, figure: 9) from an ink tank (element: 905, 911, figure: 9), wherein ink tank comprising an ink contact member and which comprising one compound selected from the group consisting of polyacelate and polyolefin (column: 6, line: 50-65; figure: 5). They also disclose that the ink comprises a fluorescent coloring material, which is water-soluble fluorescent dye (column: 3, line: 55-60); a water-soluble or hydrophilic nonionic surfactant with acetylene group (column: 5, line: 40-65); and liquid medium for dissolving the dye (column: 5, line: 10-25, see examples). They also disclose that the recording unit comprises the ink cartridge, which hold the ink and has an ejecting energy-generating device (figure: 9, column: 6, line: 15-45). They also disclose that the ejecting the ink droplets is performed by the thermal energy (column: 9, line: 30-36). They also disclose that the ink holding members are formed of fibrous aggregates, which is arranged along the direction of discharging the ink (figure: 9, column: 6, line: 63-65). They also disclose an information recording apparatus comprises the ink cartridge and ink-jet head (figure: 4).

Teraoka et al. differs from the claim of the present invention in that the ink includes a compound which is not compatible with a nonionic surfactant, wherein the compound selected from the group consisting of sugar alcohol, sugar alcohol complex and an ethyleneoxide and/or propyleneoxidized adduct thereof.

Iwata et al. teaches that to increase the viscosity of the ink, reducing the feathering of dots and improving the quality of the print, ink includes compound, wherein

the compound is sugar alcohol added with ethylene oxide and propylene oxide (column: 5, line: 1-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compound in the ink composition of Teraoka et al. by the aforementioned teaching of Iwata et al. in order to increase the viscosity of the ink and because of that it reduces the feathering of the dot and improving the quality of the printed image (column: 4, line: 64-68).

### ***Conclusion***

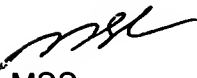
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2853

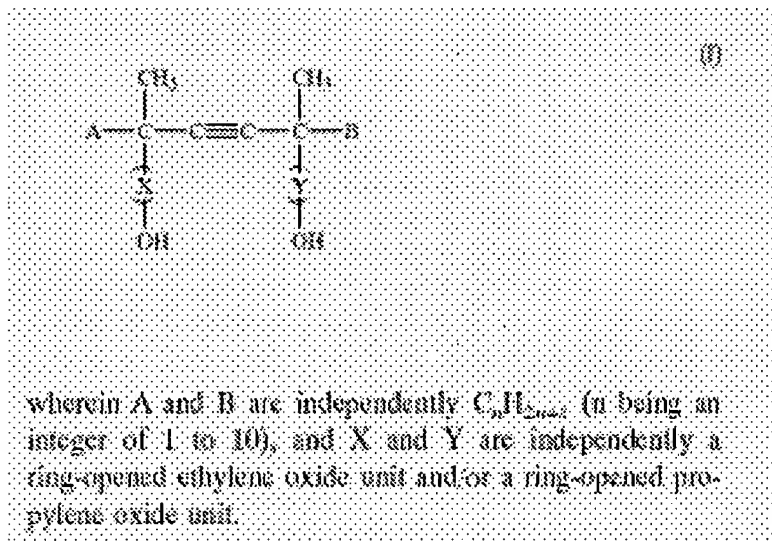
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Manish S. Shah  
Examiner  
Art Unit 2853

  
MSS  
2/24/04

# Attachment

## Formula 1:



## Formula 2:

